

# DRILL BITS

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## Safety and Occupational Health

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## WHERE ARE YOU MOST VULNERABLE

Did you know that in the National Guard, you are more likely to be killed or injured in a motor vehicle accident than any other incident. In fact more Guard Members die or suffer injury in automobiles and on motorcycles than in combat and in aviation incidents, combined.

The truth is, though not every motor vehicle accident is preventable, you can make yourself safer every time you are on the bike or in the car on the road.

Slow down and pay attention. Many of the fatalities occur due to high speed: reckless behavior. Wear your PPE, just like at work or on deployment. Don't know what PPE is required or recommended? Then

ask someone.

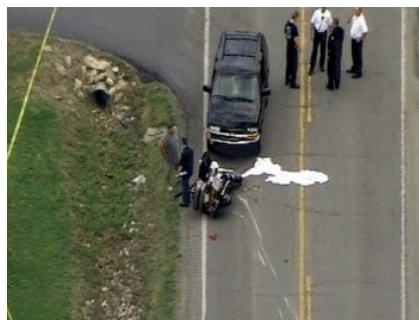
And again, as we all know, Don't Drink and Drive. Whether you are involved in an accident and injure or kill yourself, someone else, or you get caught DUI, it is a career and life decision.

So far this fiscal year, fatal accidents throughout the National Guard are up by 50% for the same time last year. And we are merely 6 weeks into the 101 Critical Days of Summer. Many Soldiers will take time to travel and enjoy the country, go see friends and relatives, camping, fishing and just simple escape from work. But as you do, realize you place yourself in harms way by being on the road. And every action you perform, other than driving (eating, drinking, texting, read-

ing, conversations) takes your brain away from vehicle operations. Though you are a safe, sober driver, that moment of distraction may prevent you from seeing that hazard like an animal, other distracted or drunk driver and a multitude of other accident triggers.

At 75 MPH, you travel 110 feet per second. Typically, time to recognize, rationalize and respond to a hazard can take 3/4 to one full second. Meaning that before you even touch the brake pedal, that deer has become the ugliest hood ornament you ever had. Or maybe worse consequences could happen. Please, stay alert and stay alive.

[http://www.defense.gov/home/features/2012/0412\\_militaryrider](http://www.defense.gov/home/features/2012/0412_militaryrider)



For more information on SD ARMY NATIONAL GUARD motorcycle safety training, vehicle safety or other related training, go to: <https://ngsdintranet/AGO/SOHO/default.aspx> or contact any member of the Safety Office

## EMERGENCY FIRST AID WHEN YOU AREN'T HOME

Many of us like to get out on the weekends just to get away from civilization. Or if your work may take you to remote destinations, here are a few tips on how to prepare and handle minor medical and trauma emergencies:

**Bleeding control**— minor cuts and scrapes can be painful but usually won't immediately change your plans. However, it does create a route for infection. Cleaning and bandaging are important, and don't hesitate to break out the anti-bacterial ointment. Meanwhile those wounds that do need further attention must be dealt with rapidly. First, apply direct pressure, using a sterile or clean medium (gauze, towels or even feminine products work great). This will facilitate protection, bleeding control and clotting of the wound. If the item becomes soaked, do not remove it, but add more bandaging until bleeding is controlled. Use a pressure point between the heart and injury to help slow the flow of blood and elevate the injury above the heart if possible. Once you have the bleeding controlled, ensure you have not completely lost

circulation by pinching the tissue (nail beds work best but you can see it in any tissue/skin) distal, or beyond the injury from the heart. Once pinched the tissue turns white and should return to pink within a second or two. Do the same test for splinting a suspected fracture or dislocation.

When it comes to skeletal injuries, there is only one good way to treat them. Without the benefit of X-Rays, CT Scan or MRI, very few of these injuries can be diagnosed with any certainty. The best thing to do is splint it as you find it. The person with the injury may have already found the most comfortable position for that injury so trust them and work with that. Also, if someone suffers an injury and they tell you "I broke my bone", treat them as such. Pain is a good indicator but without diagnostic equipment, treat for the worst.

The environment can cause other injuries such as bee stings and other insect bites or other exposures that can trigger a severe allergic reaction. Some of those reactions can be life threatening. If you have one of those

significant allergies, or if someone you are with does, be sure to keep an epi (epinephrine) pen close by.

Use sunscreen to prevent burning. Even on a hazy day, prolonged exposure can cause sun burns. Sun burns range from mild irritation to life threatening conditions

A commonly overlooked secondary injury is shock. Shock is defined as inadequate tissue perfusion (cells of the tissue are not getting enough oxygen). For further details on shock, see page 4. Treating shock is important, and kids, 12 and under require special attention. Their systems are strong and will compensate for a long time, but once depleted, they fall over the metaphoric cliff. A simple plan is to treat it before you see it. If you suspect that an injury may result in shock, do the following: Lie the victim down, insulate from the ground with a blanket or other cloth

ing, cover the victim to keep them warm, elevate the feet 6 to 12 inches.

Giving fluids to someone who may be in shock is not recommended because shock may cause nausea and vomiting. Water can be aspirated into the lungs making a bad problem worse. Finally, get help in the form of EMS.

Speaking of water, ensure that you drink plenty of water when working or playing outdoors so as to stay hydrated.

Although a cell phone may or may not work in certain areas, it is always advisable to have one fully charged.

A good, well stocked first aid kit is vital. Along with various band aids, antibiotic ointment and epinephrine (if prescribed), things you will also want in your kit should be; tape (athletic/surgical), triangle bandages (cravat), sterile gauze, mole skin, spare shoe laces, and sun screen.

This article contains only a few hints. Take a full first aid course and learn more: or contact the State Safety Office.



## Fire Marshal Urges Fourth of July Fireworks Safety

PIERRE, S.D. – Legal sale of fireworks in South Dakota begins on Thursday, June 27, and Fire Marshal Paul Merriman is urging residents to be safe and sensible as they celebrate Independence Day.

"Fireworks have long been a traditional part of the Fourth of July celebration in South Dakota, but every year we have a few injuries and some unintentional fires," Merriman said. "While much of the state has experienced much-needed moisture in recent months, we still caution anyone using fireworks to cooperate in keeping us all safe and fire-free. Common sense goes a long way."

The 2013 South Dakota Legislature changed state law to allow the discharge of fireworks from June 27 until the Sunday after July 4. This year, that means it's legal to discharge fireworks through Sunday, July 7. Previously, July 5 was the legal end date for use of fireworks in the state.

Individual cities may adopt stricter limits on use of fireworks, and Merriman suggests citizens check local ordinances and regulations.

He also said staff with the State Fire Marshal's Office will be out during the legal sales period inspecting retail fireworks stands to make sure the products being offered for sale in South Dakota are legal consumer fireworks.

"We aren't trying to take the fun out of the holiday, but we do want to make sure the fireworks being sold meet legal requirements," Merriman said.

The National Fire Protection Association says recent statistics show that nationally in 2010 fireworks caused an estimated 1,100 structure fires, 300 vehicle fires and 14,100 outside and other fires with eight civilian deaths and \$36 million in property damage. The risk of



fireworks injury was highest for children age 5-14, the association said.

Merriman offered a few simple safety tips: Follow the instructions on the product, avoid using fireworks in places where a fire could start and keep a source of water handy.

Sparklers are popular with younger children, but they can cause painful burns and should be used with adult supervision, Merriman said.



*3rd° burns are significant medical emergencies and often the result of mishandled/misused fireworks, particularly with children*

**REMEMBER, If it's predictable, it's preventable**

# VARIOUS TYPES OF SHOCK

When someone says “Shock” many people think of electricity. While an electrical shock is a serious injury, the condition of shock is all together different. According to the National Institutes of Health (NIH), "shock is a life-threatening condition that occurs when the body is not getting enough blood flow. This can damage multiple organs. Shock requires immediate medical treatment and can get worse very rapidly." Five types of shock can occur—cardiogenic, hypovolemic, anaphylactic, septic and neurogenic shock—with each having their own causes.

## **Cardiogenic Shock**

Cardiogenic shock is a type of shock that is associated with heart problems, according to the NIH. Patients who have cardiogenic shock have damage to their hearts, resulting in an inadequate blood supply to the different organs in the body. Cardiogenic shock occurs either during or after a heart attack.

## **Hypovolemic Shock**

A second type of shock, hypovolemic shock, is caused when there is not enough blood volume in the body. Patients with hypovolemic shock have severe blood loss, which is one fifth of their total blood volume, or severe fluid loss; this blood or fluid loss results in the heart being unable to pump. Causes of the severe blood loss include cuts, injuries and internal bleeding; the causes of the severe fluid loss include burns, diarrhea and vomiting.

## **Anaphylactic Shock**

The third type of shock is anaphylactic shock. Patients who suffer from anaphylactic shock have a severe allergic reaction, such as to bee sting venom, which affects the whole body. Other common severe allergic reactions are to peanuts

## **Septic Shock**

The fourth type of shock, septic shock, is associated with infections. According to the NIH, the overwhelming infection results in life-threatening low blood pressure.

## **Neurogenic Shock**

The last type of shock is neurogenic shock. Patients with neurogenic shock have damage in their nervous systems from a spinal cord injury or neurological disorder.

Because shock can be fatal, it is important that we treat this condition immediately. We treat the patient gently with calm reassurance, and aggressive with prompt care.

## SAFETY LINKS

**Motorcycle Safety:** <http://www.southdakotaride.com/> <http://www.southdakotasafetycouncil.org/motorcycle/> , [http://www.defense.gov/home/features/2012/0412\\_militaryrider](http://www.defense.gov/home/features/2012/0412_militaryrider)

**OSHA:** <http://www.osha.gov/index.html> ,

**Accident Reporting/Army Safety Center:** <https://safety.army.mil/>

**First Aid:** [http://kidshealth.org/parent/firstaid\\_safe/](http://kidshealth.org/parent/firstaid_safe/) <http://firstaid.webmd.com/>